

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A platform for automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said platform, comprising:

a plurality of computer processors connected to an internal communication network;
at least one control node in communication with an external communication network and
in communication with an external storage network having an external storage
address space, and wherein the at least one control node is connected to the
internal communication network and thereby in communication with the plurality
of computer processors;

configuration logic, responsive to said software commands, to select, under
programmatic control, a corresponding set of computer processors from the
plurality of computer processors, to program ~~the selected~~ said corresponding set
of computer processors and the internal communication network to establish the
specified virtual local area network topology, and to program the at least one
control node to define a virtual storage space for the virtual processing area
network, said virtual storage space having a defined correspondence to a subset of
the external storage address space of the external storage network.

2. (Currently Amended) The platform of claim 1 wherein the at least one control
node receives, via the internal communication network, communication messages addressed to
entities on the external communication network, and wherein the at least one control node
includes logic to provide messages on the external communication network corresponding to the
received messages.

3. (Currently Amended) The platform of claim 1 wherein the at least one control node receives, via the external communication network, communication messages addressed to entities on the platform, and wherein the at least one control node includes logic to provide messages to the addressed entities corresponding to the received messages.

4. (Currently Amended) The platform of claim 1 wherein the plurality of computer processors and the at least one control node include network emulation logic to emulate Ethernet functionality over the internal communication network.

5. (Currently Amended) ~~The platform of claim 4~~ A platform for automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said platform, comprising:

a plurality of computer processors connected to an internal communication network;
at least one control node in communication with an external communication network and
in communication with an external storage network having an external storage
address space, and wherein the at least one control node is connected to the
internal communication network and thereby in communication with the plurality
of computer processors;

configuration logic, responsive to said software commands, to select, under
programmatic control, a corresponding set of computer processors from the
plurality of computer processors, to program said corresponding set of computer
processors and the internal communication network to establish the specified
virtual local area network topology, and to program the at least one control node
to define a virtual storage space for the virtual processing area network, said
virtual storage space having a defined correspondence to a subset of the external
storage address space of the external storage network,

wherein the plurality of computer processors and the at least one control node include
network emulation logic to emulate Ethernet functionality over the internal
communication network, and

wherein the internal communication network is a point to point switch fabric.

6. (Currently Amended) The platform of claim 1 wherein the internal communication network comprises a redundant interconnect connecting the plurality of computer processors and the at least one control node to redundant switch fabrics.

7. (Previously Presented) The platform of claim 6 having at least one other control node connected to the redundant interconnect and to form redundant control nodes.

8. (Currently Amended) ~~The platform of claim 1~~ A platform for automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said platform, comprising:
a plurality of computer processors connected to an internal communication network;
at least one control node in communication with an external communication network and
in communication with an external storage network having an external storage
address space, and wherein the at least one control node is connected to the
internal communication network and thereby in communication with the plurality
of computer processors;
configuration logic, responsive to said software commands, to select, under
programmatic control, a corresponding set of computer processors from the
plurality of computer processors, to program said corresponding set of computer
processors and the internal communication network to establish the specified
virtual local area network topology, and to program the at least one control node
to define a virtual storage space for the virtual processing area network, said
virtual storage space having a defined correspondence to a subset of the external
storage address space of the external storage network,
wherein the at least one control node receives, via the internal communication network,
storage messages from [[the]] said corresponding set of computer processors, and
wherein the at least one control node includes logic to extract an address from a

received storage message, to identify the defined corresponding address in the external storage address space, and to provide messages on the external storage network corresponding to the received storage messages and having the corresponding address.

9. (Currently Amended) ~~The platform of claim 8~~ A platform for automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said platform, comprising:

a plurality of computer processors connected to an internal communication network;
at least one control node in communication with an external communication network and
in communication with an external storage network having an external storage
address space, and wherein the at least one control node is connected to the
internal communication network and thereby in communication with the plurality
of computer processors;

configuration logic, responsive to said software commands, to select, under
programmatic control, a corresponding set of computer processors from the
plurality of computer processors, to program said corresponding set of computer
processors and the internal communication network to establish the specified
virtual local area network topology, and to program the at least one control node
to define a virtual storage space for the virtual processing area network, said
virtual storage space having a defined correspondence to a subset of the external
storage address space of the external storage network.

wherein the at least one control node receives, via the internal communication network,
storage messages from said corresponding set of computer processors, and
wherein the at least one control node includes logic to extract an address from a
received storage message, to identify the defined corresponding address in the
external storage address space, and to provide messages on the external storage
network corresponding to the received storage messages and having the
corresponding address, and

wherein the at least one control node includes logic to buffer data corresponding to write messages received from a computer processor of said corresponding set of computer processors and to provide the buffered data in the corresponding message provided to the external storage network.

10. (Currently Amended) ~~The platform of claim 8~~ A platform for automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said platform, comprising:

a plurality of computer processors connected to an internal communication network;
at least one control node in communication with an external communication network and
in communication with an external storage network having an external storage
address space, and wherein the at least one control node is connected to the
internal communication network and thereby in communication with the plurality
of computer processors;

configuration logic, responsive to said software commands, to select, under
programmatic control, a corresponding set of computer processors from the
plurality of computer processors, to program said corresponding set of computer
processors and the internal communication network to establish the specified
virtual local area network topology, and to program the at least one control node
to define a virtual storage space for the virtual processing area network, said
virtual storage space having a defined correspondence to a subset of the external
storage address space of the external storage network,

wherein the at least one control node receives, via the internal communication network,
storage messages from said corresponding set of computer processors, and
wherein the at least one control node includes logic to extract an address from a
received storage message, to identify the defined corresponding address in the
external storage address space, and to provide messages on the external storage
network corresponding to the received storage messages and having the
corresponding address, and

wherein the at least one control node receives storage messages from the external storage network, and wherein the at least one control node includes logic to identify a corresponding computer processor or control node that the received message is responsive to, and to provide a corresponding message to the identified computer processor or control node.

11. (Currently Amended) A method of automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said ~~platform~~ method comprising the acts of:

providing a platform having a plurality of computer processors and at least one control node connected to an internal communication network, and wherein the at least one control node is in communication with an external communication network and an external storage network having an external storage address space, under programmatic control and in response to the software commands, selecting a corresponding set of computer processors for the virtual processing area network, under programmatic control and in response to the software commands, programming the ~~selected~~ said corresponding set of computer processors and the internal network to establish the specified virtual local area network topology providing communication among ~~[[the]]~~ said corresponding set of computer processors but excluding the processors from the plurality not in ~~the defined~~ said set, under programmatic control and in response to the software commands, programming the at least one control node to define a virtual storage space of the virtual processing network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the storage network.

12. (Currently Amended) The method of claim 11 wherein the at least one control node receives, via the internal communication network, communication messages addressed to entities on the external communication network, and wherein the at least one control node

provides messages on the external communication network corresponding to the received messages.

13. (Currently Amended) The method of claim 11 wherein the at least one control node receives, via the external communication network, communication messages addressed to entities on the platform, and wherein the at least one control node provides messages to the addressed entities corresponding to the received messages.

14. (Currently Amended) The method of claim 11 wherein the plurality of computer processors and the at least one control node emulate Ethernet functionality over the internal communication network.

15. (Currently Amended) ~~The method of claim 14~~ A method of automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said method comprising the acts of:

providing a platform having a plurality of computer processors and at least one control node connected to an internal communication network, and wherein the at least one control node is in communication with an external communication network and an external storage network having an external storage address space,
under programmatic control and in response to the software commands, selecting a corresponding set of computer processors for the virtual processing area network,
under programmatic control and in response to the software commands, programming said corresponding set of computer processors and the internal network to establish the specified virtual local area network topology providing communication among said corresponding set of computer processors but excluding the processors from the plurality not in said set,
under programmatic control and in response to the software commands, programming the at least one control node to define a virtual storage space of the virtual processing

network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the storage network,
wherein the plurality of computer processors and the at least one control node emulate Ethernet functionality over the internal communication network, and
wherein the internal communication network is a point to point switch fabric and
wherein the emulation of Ethernet functionality is provided over the point to point switch fabric.

16. (Currently Amended) The method of claim 11 wherein the plurality of computer processors communicate over a redundant interconnect connecting the plurality of computer processors and the at least one control node.

17. (Previously Presented) The method of claim 16 having at least one other control node connected to the redundant interconnect and to form redundant control nodes.

18. (Currently Amended) ~~The method of claim 11~~ A method of automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said method comprising the acts of:

providing a platform having a plurality of computer processors and at least one control node connected to an internal communication network, and wherein the at least one control node is in communication with an external communication network and an external storage network having an external storage address space,
under programmatic control and in response to the software commands, selecting a corresponding set of computer processors for the virtual processing area network,
under programmatic control and in response to the software commands, programming said corresponding set of computer processors and the internal network to establish the specified virtual local area network topology providing communication among said corresponding set of computer processors but excluding the processors from the plurality not in said set,

under programmatic control and in response to the software commands, programming the at least one control node to define a virtual storage space of the virtual processing network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the storage network,
wherein the at least one control node receives, via the internal communication network, storage messages from ~~[[the]]~~ said corresponding set of computer processors, and wherein the at least one control node extracts an address from a received storage message, identifies the defined corresponding address in the external storage address space, and provides messages on the external storage network corresponding to the received storage messages and having the corresponding address.

19. (Currently Amended) ~~The method of claim 18~~ A method of automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said method comprising the acts of:

providing a platform having a plurality of computer processors and at least one control node connected to an internal communication network, and wherein the at least one control node is in communication with an external communication network and an external storage network having an external storage address space,
under programmatic control and in response to the software commands, selecting a corresponding set of computer processors for the virtual processing area network,
under programmatic control and in response to the software commands, programming said corresponding set of computer processors and the internal network to establish the specified virtual local area network topology providing communication among said corresponding set of computer processors but excluding the processors from the plurality not in said set,
under programmatic control and in response to the software commands, programming the at least one control node to define a virtual storage space of the virtual processing

network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the storage network,

wherein the at least one control node receives, via the internal communication network, storage messages from said corresponding set of computer processors, and wherein the at least one control node extracts an address from a received storage message, identifies the defined corresponding address in the external storage address space, and provides messages on the external storage network corresponding to the received storage messages and having the corresponding address, and

wherein the at least one control node buffers data corresponding to write messages received from a computer processor and provides the buffered data in the corresponding message provided to the external storage network.

20. (Currently Amended) ~~The method of claim 18~~ A method of automatically deploying at least one virtual processing area network, in response to software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said method comprising the acts of:

providing a platform having a plurality of computer processors and at least one control node connected to an internal communication network, and wherein the at least one control node is in communication with an external communication network and an external storage network having an external storage address space, under programmatic control and in response to the software commands, selecting a corresponding set of computer processors for the virtual processing area network, under programmatic control and in response to the software commands, programming said corresponding set of computer processors and the internal network to establish the specified virtual local area network topology providing communication among said corresponding set of computer processors but excluding the processors from the plurality not in said set, under programmatic control and in response to the software commands, programming the at least one control node to define a virtual storage space of the virtual processing

network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the storage network,
wherein the at least one control node receives, via the internal communication network,
storage messages from said corresponding set of computer processors, and
wherein the at least one control node extracts an address from a received storage message, identifies the defined corresponding address in the external storage address space, and provides messages on the external storage network
corresponding to the received storage messages and having the corresponding address, and
wherein the at least one control node receives storage messages from the external storage network, and wherein the at least one control node identifies a corresponding computer processor or control node that the received message is responsive to, and provides a corresponding message to the identified computer processor or control node.